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EXAMINER	
SALTARELLI, DOMINIC D	

ART UNIT	PAPER NUMBER
2611	12

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/767,053	LIGA ET AL.	
	Examiner	Art Unit	
	Dominic D Saltarelli	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-90* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-90* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2,4,5,10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed May 23 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the WIPO documents 99/39506, 98/54902, 98/32284, 98/32281, 97/45965, 96/37075, 99/26415, 98/08340, and the non-patent literature documents "The Web is Not TV", "EarthWeb and ACTV Unveil HyperTV Breakthrough", "Intercast Brings Web to TV", and Verknuepfeung Von TV Mit Internet", referred to therein were not provided and therefore have not been considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 6, 10, 11, 18, 19, 20, 21, 23, 28, 29, 30, 38, 39, 40, 42, 43, 44, 47, 48, 49, 62, 64, 66, 70, 71, 72, 73, 74, 81, 82, 83, 84, 85, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (WO 93/11617, submitted by applicant on April 22, 2004) in view of Safadi (6,487,721).

Regarding claims 1 and 62, Freeman discloses a method and computer program product for providing customized programming in a digital interactive programming system (fig. 2, page 10, lines 18-23) from a programming transmission center (fig. 2, transmitter 5, page 10, lines 23-32) to a user, the customized programming comprising a succession of digital program segments (col. 9, lines 20-24) selected by the digital interactive programming system from a plurality of digital program segments according to user preference information of the user (active user selection information from control unit 9, page 10, lines 23-30), the customized programming selected to appeal to the programming preferences of the user (as the selections are user driven, and are thus representative of user programming preferences), the method comprising:

Accessing user preference information indicating the programming preferences of the user (relay box 7 sends user preference information to switching station 4, page 10, lines 23-25);

Selecting and accessing a first digital program segment of the succession of digital program segments from the plurality of digital programming segments according to the user preference information of the user (page 10, lines 27-30);

Transmitting the first digital program segment to a reception system of the user (page 10, lines 27-30);

Selecting and accessing a second digital program segment of the succession of digital program segments from the plurality of digital program segments according to the user preference information (the process is

interactive, with plural segments transmitted over time in response to user preferences, page 10, lines 1-10);

Seamlessly switching from the first digital program segment to the second digital program segment wherein the switch occurs without creating any perceptible artifacts when the succession of digital program segments is presented to the user (page 11, lines 24-33); and

Transmitting the second program segment to the reception system of the user (page 10, lines 27-30).

Freeman fails to disclose using splice points to switch from the first to second segments.

In an analogous art, Safadi teaches the use of splice points to switch between program segments (col. 4, lines 28-45) wherein the splice points are identified ahead of time and used to switch from a first to second program segment (col. 6, lines 29-41), providing an automatic means for detecting the proper places to switch between segments.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman to utilize splice points which are detected before completing the step of transmission, as taught by Safadi, for the benefit of automatically identifying the proper place in a digital program segment from which to transition to the second program segment for smooth, controlled transitions.

Regarding claim 25, Freeman discloses a programming transmission system in a digital interactive programming system for providing customized programming (fig. 2, page 10, lines 18-23) from a programming transmission center (fig. 2, transmitter 5, page 10, lines 23-32) to a user, the customized programming comprising a succession of digital program segments (col. 9, lines 20-24) selected by the digital interactive programming system from a plurality of digital program segments according to user preference information of the user (active user selection information from control unit 9, page 10, lines 23-30), the customized programming selected to appeal to the programming preferences of the user (as the selections are user driven, and are thus representative of user programming preferences), the programming system comprising:

A program selector (fig. 2, switching station 4) which selects and accesses the succession of digital program segments from the plurality of digital programming segments, wherein each of the succession of digital program segments is selected in individual succession by the digital interactive programming system based upon the user preference information of the user (the process is interactive, with plural segments transmitted over time in response to user preferences, page 10, lines 1-10, 18-30);

A memory which stores the user preference information (an inherent feature, as the selection process requires the user preference information to be stored in memory so that it may be processed by the program selector);

A program switcher (switching station 4) which switches between a prior digital program segment and a successive digital program segment in the succession of digital program segments (page 10, lines 27-30), wherein a seamless switch occurs without creating any perceptible artifacts when the succession of digital program segments is presented to the user (page 11, lines 24-33); and

A programming transmitter (fig. 2, transmitter 5) that transmits the successive digital program segments to the user (page 10, lines 27-33).

Freeman fails to disclose a data filter which identifies a splice point in each successive digital program segment and a processor that coordinates the function of the program selector, data filter, program switcher, and the digital interactive programming system.

In an analogous art, Safadi teaches the use of splice points to switch between program segments (col. 4, lines 28-45) wherein the splice points are identified ahead of time (by inserter 140) and used to switch from a first to second program segment (col. 6, liens 29-41), providing an automatic means for detecting the proper places to switch between segments.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman to utilize a data filter to identify splice points, as taught by Safadi, for the benefit of automatically identifying the proper place in a digital program segment from which to transition to the second program segment for smooth, controlled transitions.

Examiner takes official notice that it is notoriously well known in the art to utilize central processing units (CPUs) to coordinate the tasks and activities of components in any digital computer system, providing the benefit of centralized control to ensure interoperability and prevent conflicts.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman and Safadi to include a processor that coordinates the function of the program selector, data filter, program switcher, and the digital interactive programming system to ensure smooth operation of the system through centralized control.

Regarding claims 4 and 64, Freeman and Safadi disclose the method and computer program product of claims 1 and 62, wherein each of the succession of digital program segments is encoded with a splice point (Safadi, col. 6, lines 19-25).

Regarding claims 6, 43, and 66, Freeman and Safadi disclose the method, system, and computer program product of claims 4, 25, and 64, wherein the digital program segments are compressed and encoded according to MPEG standards (Safadi, col. 6, lines 19-25).

Regarding claims 10, 11, 28, 29, 70, and 71, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62,

including the step of receiving user preference information from the user via a backchannel communication link (two-way cable) between the reception system of the user and the programming transmission center (Freeman, page 10, lines 23-27).

Regarding claims 18 and 81, Freeman and Safadi disclose the method and computer program product of claims 1 and 62, but fail to disclose retrieving digital program segments from a private network via a communication link between the programming transmission center and the private network.

Examiner takes official notice that it is notoriously well known in the art to retrieve data from private networks in interactive systems; as service providers of an interactive system often provide exclusive content available only to subscribers of the service, said exclusive content being a means to encourage new subscribers to use the service.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method and computer program product disclosed by Freeman and Safadi to retrieve at least one digital program segment from a private network via a communication link between the programming transmission center and the private network, for the benefit of providing exclusive content to users of the interactive system.

Regarding claims 19, 38, and 82, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, wherein the transmission medium is terrestrial broadcast television, cable, satellite, fiber optics, or telephony (Freeman, page 7, lines 26-33).

Regarding claims 20, 39, and 85, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, wherein the digital program segments comprise video (Freeman, page 10, lines 18-21).

Regarding claims 21 and 40, Freeman and Safadi disclose the method and system of claims 1 and 25, wherein transmission is performed over a narrow bandwidth transmission medium (Freeman teaches distribution over a telephone system, page 7, lines 31-33).

Regarding claims 23, 42, and 88, Freeman and Safadi disclose the method, system, and computer program product of claims 10, 28, and 70, wherein the user preference information received at the programming transmission center via the backchannel communication link comprises a user selection (interactive response) by the user to an interrogatory contained in the succession of digital program segments (Freeman, page 3, lines 24-30 and page 10, lines 18-30) and the selection of the succession of digital program segments

is determined by the interactive programming system based upon the user selection (Freeman, page 10, lines 18-30).

Regarding claim 30, Freeman and Safadi disclose the system of claim 25, but fail to disclose the memory comprises a data storage server.

Examiner takes official notice that it is notoriously well known in the art to store user preference data on data storage servers for compiling user preference data into user profiles, which is a valuable commodity to programming providers and advertisers.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman and Safadi to include a data storage server for storing the user preference data, for the benefit of compiling user profiles by storing large amounts of user preference data over time, a valuable commodity to programming providers and advertisers.

Regarding claim 44, Freeman and Safadi disclose the system of claim 43, wherein the splice point is an MPEG code (Safadi teaches the splice points are inserted as 'cue commands' in a 'spliceable MPEG-2 stream', col. 6, lines 19-25).

Regarding claims 47, and 48, Freeman and Safadi disclose the system of claim 25, but fail to disclose the data filter and program switcher comprise digital multiplexers.

Examiner takes official notice that it is notoriously well known to utilize digital multiplexers for all manner of digital filtering and digital switching functions, as digital multiplexers are most widely implemented, well understood, and economically feasible in digital systems.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman and Safadi to utilize digital multiplexers for the filtering and switching functions, as digital multiplexers are widely implemented, well understood, and economically feasible in digital systems.

Regarding claim 49, Freeman and Safadi disclose the system of claim 25, but fail to disclose a data rate controller that controls the rate at which each of the succession of digital program segments are transferred to the programming transmitter, thereby varying the rate of transmission of the succession of digital program segments to coordinate a transmission rate with a filling rate and an outflow rate of a buffering component in a receiver of the user.

Examiner takes official notice that is it notoriously well known in the art to utilize data rate controllers to enforce what is known in industry as 'variable bit rate' (VBR) transmission. VBR transmissions are widely used in practice when transmitting digital video data, especially digital video data encoded under an MPEG standard, to match the buffer speed of the receiver, constantly adjusting the rate of data transmission to ensure that data is not delivered so quickly that

the receiver cannot decode the stream fast enough (known in industry as 'buffer overflow'), resulting in loss of data, and ensuring that data is not delivered too slowly, resulting in the break in the stream at the receiver end (known in industry as 'buffer underflow'), which interrupts the display of video to the user.

It would have been obvious at the time to a person of ordinary skill in the art to utilize a data rate controller to control the rate of transmission of the digital program segments to prevent loss of data or stream interruptions that would be perceptible to the user.

Regarding claims 72 and 83, Freeman and Safadi disclose the computer program product of claims 71 and 82, but fail to disclose the communication network is the internet.

Examiner takes official notice that it is notoriously well known to utilize the internet as a communication network, wherein the internet is a highly available, well established, world wide network used for all manner of digital communications.

It would have been obvious at the time to a person of ordinary skill in the art to modify the computer program product disclosed by Freeman and Safadi to utilize the internet as the communication network, as the internet is a highly available, well established, world wide network that is useful for all manner of digital communications between users and service providers.

Regarding claims 73 and 74, Freeman and Safadi disclose the computer program product of claim 70, but fail to disclose the user preference information is stored on a data storage server at the programming transmission center.

Examiner takes official notice that it is notoriously well known in the art to store user preference data on data storage servers for compiling user preference data into user profiles, which is a valuable commodity to programming providers and advertisers.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman and Safadi to include a data storage server for storing the user preference data, for the benefit of compiling user profiles by storing large amounts of user preference data over time, a valuable commodity to programming providers and advertisers.

Regarding claim 84, Freeman and Safadi disclose the computer program product of claim 82, but fail to disclose the communication network is a private network

Examiner takes official notice that it is notoriously well known in the art to retrieve data from private networks in interactive systems, as service providers of an interactive system often provide exclusive content available only to subscribers of the service, said exclusive content being a means to encourage new subscribers to use the service.

It would have been obvious at the time to a person of ordinary skill in the art to modify the computer program product disclosed by Freeman and Safadi to transmit the digital program segments over a private network, for the benefit of providing exclusive content to users of the interactive system.

1. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Safadi as applied to claim 1 above, and further in view of Wittig et al. ('Intelligent Media Agents in Interactive Television Systems', provided by applicant April 22, 2004) [Wittig].

Regarding claim 7, Freeman and Safadi disclose the method of claim 1, but fail to disclose the digital interactive programming system further comprises a user profile system and wherein the user preference information is accessed from the user profile system.

In an analogous art, Wittig teaches a user profile system (intelligent media agent, second paragraph of introduction and page 186 'Attributes of user profiles') wherein user preference information is accessed from the user profile system for implementing a digital interactive system (page 184, 'Dynamic presentation generation', 3rd paragraph and page 187 'Filtering module'), for the benefit of an adaptive, personalized interactive system.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman and Safadi to include a user profile system and wherein the user preference information is accessed from the

user profile system, as taught by Wittig, for the benefit of an adaptive, personalized digital interactive programming system which provides content most relevant to, and desired by, the user.

2. Claims 12, 13, 14, 17, 24, 31, 34, 35, 36, 37, 45, 46, 75, 76, 77, 80, 89, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Safadi as applied to claims 1, 4, 25, 62, and 64 above, and further in view of Kenner et al. (5,956,716) [Kenner].

Regarding claims 12, 31, and 75, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, but fail to disclose the step of accessing the first or second digital program segment further comprises the steps of requesting and receiving at least one digital program segment from a remote transmission source via a receiver.

In an analogous art, Kenner teaches a video clip storage and retrieval system (fig. 1, col. 7, lines 14-22) wherein video clips are stored across a network of storage and retrieval units (SRUs), and when a particular video clip is desired, the clip is requested and retrieved from an extended SRU for transmission to a user terminal (col. 11, lines 25-32, 45-51), wherein the benefit of utilizing a network of remote transmission sources is to most efficiently utilize a large amount of distributed storage space to make the most desired videos most readily available to those users who would request them (col. 11, lines 4-24 and col. 17, lines 35-46).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method, system, and computer program product disclosed by Freeman and Safadi to include accessing the digital program segments from a remote transmission source, as taught by Kenner, (wherein a receiver is inherently necessary to receive the segments from the transmission source), for the benefit of utilizing a network of remote transmission sources to most efficiently utilize a large amount of distributed storage space to make the most desired digital program segments most readily available to those users who are most interested in them.

Regarding claims 13, 34, and 76, Freeman, Safadi, and Kenner disclose the method, system, and computer program product of claims 12, 31, and 75, wherein the remote transmission source is a regional transmission center (Kenner, fig. 1, extended SRU 26 primarily serves geographic regions, as clips are stored on extended SRUs based on their proximity to users, col. 11, lines 4-24).

Regarding claims 14, 37, and 77, Freeman, Safadi, and Kenner disclose the method, system, and computer program product of claims 12, 31, and 75, wherein the transmission received from the remote transmission source is received via a communication network (Kenner, fig. 4, network 96) or the internet (Kenner, fig. 4, internet 56).

Regarding claims 17 and 80, Freeman and Safadi disclose the method and computer program product of claims 1 and 62, but fail to disclose retrieving digital program segments from the Internet via a communication link between the programming transmission center and the Internet.

In an analogous art, Kenner teaches a programming transmission center (local SRU which provides video content to user terminals, col. 8, lines 52-55) which retrieves video clips from the internet for display to users (col. 20, lines 10-43, wherein the extended SRUs provide the video clips, col. 11, lines 45-50), wherein the internet is a highly available, well established, world wide network used for information retrieval.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method and computer program product disclosed by Freeman and Safadi to include retrieving at least one digital program segment from the Internet via a communication link between the programming transmission center and the Internet, as taught by Kenner, for the benefit of utilizing a high availability, well established, and world wide network for digital program segment retrieval.

Regarding claims 24, 45, and 89, Freeman and Safadi disclose the method, system, and computer program product of claims 4, 25, and 64, but fail to disclose the step of encoding further comprises encoding data commands into

the succession of digital program segments, the commands encoded for instructing a reception system of the user to retrieve an additional digital program segment over a communication network (the Internet).

In an analogous art, Kenner teaches including URL data within digital segments that are used to retrieve additional segments from the Internet (col. 32, lines 51-63) and embedded instructions for automatic alteration or enhancement of program segments (col. 32 line 64 – col. 33 line 12), providing means for accessing related or additional program segments from a communication network to the user for added flexibility.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method and system disclosed by Freeman and Safadi to encode data commands for instructing a reception system of the user to retrieve an additional digital program segment over a communication network (the Internet), as taught by Kenner, for the benefit of increasing the flexibility of the interactive system through dynamic retrieval of additional digital program segments.

Regarding claim 35, Kenner additionally discloses a storage server that stores the succession of digital program segments received from the remote transmission source (local SRU, col. 8, lines 51-65), for the benefit of high availability of most requested program segments (col. 9, lines 55-67).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman, Safadi, and Kenner to include a

storage server that stores the succession of digital program segments received from the remote transmission source, as taught by Kenner, for the benefit of high availability of the most requested digital program segments to users.

Regarding claim 36, Freeman, Safadi, and Kenner disclose the system of claim 31, wherein the program selector access the succession of digital program segments directly from the receiver (Freeman teaches the central switching station 4 receives and routes programming directly from programming sources, the 'various video signals 1', page 10, lines 18-23).

Regarding claims 46 and 90, Freeman and Safadi disclose the system and computer program product of claims 25 and 64, but fail to disclose a data inserter that inserts data commands into the succession of digital program segments, the commands encoded for instructing a receiver of the user to retrieve an additional digital program segment from a private network.

In an analogous art, Kenner teaches encoding data within digital segments that is used to retrieve additional segments from a network (additional video IDs, col. 32, lines 51-63) and embedded instructions for automatic alteration or enhancement of program segments (col. 32 line 64 – col. 33 line 12), providing means for accessing related or additional program segments from a communication network to the user for added flexibility.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system and computer program product disclosed by Freeman and Safadi to include a data inserter for inserting data commands for instructing a reception system of the user to retrieve an additional digital program segment over a communication network, as taught by Kenner, for the benefit of increasing the flexibility of the interactive system through dynamic retrieval of additional digital program segments.

Examiner takes official notice that it is notoriously well known in the art to retrieve data from private networks in interactive systems, as service providers of an interactive system often provide exclusive content available only to subscribers of the service, said exclusive content being a means to encourage new subscribers to use the service.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system and computer program product disclosed by Freeman, Safadi, and Kenner to retrieve at least one digital program segment from a private network, for the benefit of providing exclusive content to users of the interactive system.

3. Claims 22, 41, and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Safadi as applied to claims 1, 25, and 62 above, and further in view of Herz et al. (5,758,257) [Herz].

Regarding claims 22, 41, and 87, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, but fail to disclose the customized programming is transmitted to a plurality of users whose user preference information indicates common programming preferences.

In an analogous art, Herz teaches tracking user preference information to create user profiles (customer profiles), which are then compiled into system profiles used in determining the most appropriate video programs to broadcast to users (col. 42, lines 12-24).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method, system, and computer program product disclosed by Freeman and Safadi to transmit the programming to a plurality of users whose user preference information indicates common programming preferences, as taught by Herz, for the benefit of determining the most appropriate video programs to broadcast out to users, as transmissions to groups of users is a more efficient utilization of available bandwidth.

4. Claims 15, 16, 32, 33, 78, 79, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Safadi as applied to claims 1, 25, and 62 above, and further in view of Craig (5,790,176).

Regarding claims 15, 32, and 78, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, but fail to disclose the succession of digital program segments are accessed from a

library and the steps of selecting further comprise the step of selecting at least one digital program segment according to information with a library database associated with the library of digital program segments.

In an analogous art, Craig teaches a multimedia distribution system (col. 6, lines 30-41) wherein the multimedia data are stored in, and accessed from, a library (col. 6, lines 51-62), and a library database (fig. 3b, Feature Index System 252) is associated with the library which stores information which is used in accessing the stored multimedia data (under control of Librarian 250, col. 8 line 50 – col. 9 line 46), providing video on demand functionality in a dynamic, intelligent fashion.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method, system, and computer program product disclosed by Freeman and Safadi to include a library for storing the digital program segments and an associated library database used in retrieving the digital program segments, as taught by Craig, for the benefit of providing video on demand functionality to the interactive system in a dynamic, intelligent fashion by using a comprehensive database which catalogs the contents and features of the library of segments.

Regarding claims 16, 33, and 79, Craig additionally discloses updating the library and the library database according to a set of rules governing the library (catalogue maintenance, col. 9, lines 11-17), wherein the set of rules dictates:

Which of the digital program segments are to be stored in the library (new program data, col. 9, lines 15-20),

A location for storing each of the digital program segments (col. 10, lines 29-40), and

A period of time for storage of each of the digital program segments (the predetermined time period after which a program is removed and archived, col. 9, lines 30-42), and wherein the library database stores information identifying the programs segments stored, the location, and the period of time, as determined by the set of rules (col. 9, lines 3-10); and

The set of rules is based upon an aggregation of related user preference information of a plurality of users (col. 10, lines 20-28), all for the benefit of intelligent storage of programming (col. 10 line 29 - col. 11 line 11).

It would have been obvious at the time to a person of ordinary skill in the art to further modify the method, system, and computer program product disclosed by Freeman, Safadi, and Craig to update the library and library database according to a set of rules as described above, as taught by Craig, for the benefit of intelligent storage of digital program segments for maximizing efficiency.

Regarding claim 86, Freeman and Safadi disclose the computer program product of claim 62, wherein the transmission medium is a low bandwidth

transmission medium (Freeman teaches using telephone lines, page 7, lines 31-33), but fail to disclose the digital program segments comprise still-frame video.

In an analogous art, Craig teaches transmitting still images as part of a multimedia selection in a multimedia distribution service (col. 6, lines 30-41), offering a diverse selection of multimedia services.

It would have been obvious at the time to a person of ordinary skill in the art to modify the computer program product disclosed by Freeman and Safadi to include still-frame video, as taught by Craig, for increasing the diversity of information available to a user.

5. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman in view of Safadi and Blahut et al. (5,442,389) [Blahut].

Regarding claim 50, Freeman discloses a method of creating customized programming for transmission within a digital interactive programming system (page 10, lines 18-30) comprising:

Selecting a first digital program segment and a second digital program segment from a plurality of digital program segments, the first and second digital program segments comprising a succession of digital program segments (the process is interactive, with plural segments transmitted over time in response to user preferences, page 10, lines 1-10, 18-30), wherein the switch is seamless (page 11, lines 24-34); and

Compressing the succession of digital program segments (fig. 2, video compressors 3, page 10, lines 18-21); and

Selecting the programming to appeal to programming preferences of a user (segments are chosen based on user preferences which are input by the user, directly reflecting the programming preference of the user, col. 10, lines 23-30); and

Seamlessly switching to the second digital program segment (page 11, lines 24-33)

Freeman fails to disclose encoding a splice point within the first digital program segment to facilitate the seamless switch to the second digital program segment and storing the succession of digital program segments on a storage server accessible by a programming transmission center.

In an analogous art, Safadi teaches the use of splice points to facilitate switching between program segments (col. 4, lines 28-45) wherein the splice points are encoded into the digital signals (col. 6, lines 19-25), providing an automatic means for detecting the proper places to switch between segments.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system disclosed by Freeman to encoding a splice point within the first digital program to facilitate the seamless switch to a second digital program segment, as taught by Safadi, for the benefit of automatically identifying the proper place in a digital program segment from which to transition to the second program segment for smooth, controlled transitions.

In an analogous art, Blahut teaches storing a succession of digital program segments (col. 4, lines 36-41) on a storage server (fig. 1, program library 102) accessible by a programming transmission center (fig. 1, server 100), enabling video on demand functionality.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman and Safadi to include storing the succession of digital program segments on a storage server accessible by a programming transmission center, as taught by Blahut, enhancing the flexibility of the interactive system through video on demand capability.

6. Claims 2, 3, 5, 8, 9, 26, 27, 51, 54, 55, 56, 59, 63, 65, 67, 68, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman and Safadi as applied to claims 1, 2, 25, 26, 62, and 63 above, and in further view of Blahut.

Regarding claims 2, 26, and 63, Freeman and Safadi disclose the method, system, and computer program product of claims 1, 25, and 62, but fail to disclose storing and accessing the digital program signal segments from a storage server at the programming transmission center.

In an analogous art, Blahut teaches storing a succession of digital program segments (col. 4, lines 36-41) on a storage server (fig. 1, program library 102) accessible by a programming transmission center (fig. 1, server 100), enabling video on demand functionality.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method and system disclosed by Freeman and Safadi to include storing the succession of digital program segments on a storage server accessible by a programming transmission center, as taught by Blahut, enhancing the flexibility of the interactive system through video on demand capability.

Regarding claims 3, 27, and 55, Freeman, Safadi, and Blahut disclose the methods and system 2, 26, and 50, wherein the storage server uses magnetic storage media (Blahut, col. 4, lines 53-55).

Regarding claims 5 and 65, Freeman, Safadi, and Blahut disclose the method and computer program product of claims 2 and 63, wherein the splice points (cue commands, Safadi, col. 6, lines 19-25) are inserted during encoding and compression and the digital program segments are then stored in encoded/compressed form (Blahut, col. 4, lines 53-68), thus the splice points are inserted before the step of storing.

Regarding claims 8, 9, 68, and 69, Freeman, Safadi, and Blahut disclose the method and computer program product of claims 2 and 63, wherein the succession of digital program segments are compressed according to MPEG

standards (Safadi, col. 6, lines 19-25) before storing (Blahut teaches the stored segments are already in compressed form, col. 4, lines 53-68).

Regarding claim 51, Freeman, Safadi, and Blahut disclose the method of claim 50, wherein the step of selection is based upon user preference information of the user (Freeman teaches selection based upon user selections, page 10, lines 18-30).

Regarding claim 54, Freeman, Safadi, and Blahut disclose the method of claim 50, wherein the steps of encoding and compressing are performed according to MPEG standards (Safadi, col. 6, lines 19-25).

Regarding claim 56, Freeman, Safadi, and Blahut disclose the method of claim 50, but fail to disclose the storage server is located at the programming transmission center.

Examiner takes official notice that it is notoriously well known in the art to maintain large storage servers of video data at the programming transmission center, making the material available on said server immediately available for transmission from the center, alleviating transmission latencies that would be present if the storage server were located remotely from the transmission center.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to locate the

storage server at the programming transmission center, for the benefit of making the content stored on the storage server highly available for quick transmission from the programming transmission center.

Regarding claim 59, Freeman, Safadi, and Blahut disclose the method of claim 50, wherein the digital program segments comprise video (Freeman, page 10, lines 18-21).

Regarding claim 67, Freeman, Safadi, and Blahut disclose the computer program product of claim 65, wherein the digital program segments are compressed and encoded according to MPEG standards (Safadi, col. 6, lines 19-25).

7. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, Safadi, and Blahut as applied to claim 50 above, and further in view of Herz.

Regarding claim 52, Freeman, Safadi, and Blahut disclose the method claim 50, but fail to disclose the customized programming is transmitted to a plurality of users whose user preference information indicates common programming preferences.

In an analogous art, Herz teaches tracking user preference information to create user profiles (customer profiles), which are then compiled into system

profiles used in determining the most appropriate video programs to broadcast to users (col. 42, lines 12-24).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to transmit the programming to a plurality of users whose user preference information indicates common programming preferences, as taught by Herz, for the benefit of determining the most appropriate video programs to broadcast out to users, as transmissions to groups of users is a more efficient utilization of available bandwidth.

8. Claims 53 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, Safadi, and Blahut as applied to claim 50 above, and further in view of Craig.

Regarding claim 53, Freeman, Safadi, and Blahut disclose the method of claim 50, but fail to disclose the step of selecting is performed by the digital interactive programming system based upon information in a database governed by a set of rules, where the set of rules dictates:

The succession of digital program segments to be stored,

A location for storing the succession of digital program segments, and

A period of time for storage of each of the succession of digital program segments; and wherein the information in the database identifies the digital

program segments stored, the location, and the period of time as determined by the set of rules; and

The set of rules is based upon an aggregation of related user preference information of a plurality of users.

In an analogous art, Craig teaches a multimedia distribution system (col. 6, lines 30-41) wherein the multimedia data are stored in, and accessed from, a library (col. 6, lines 51-62), and a library database (fig. 3b, Feature Index System 252) is associated with the library which stores information which is used in accessing the stored multimedia data (under control of Librarian 250, col. 8 line 50 – col. 9 line 46), providing video on demand functionality in a dynamic, intelligent fashion. Craig additionally discloses updating the library and the library database according to a set of rules governing the library (catalogue maintenance, col. 9, lines 11-17), wherein the set of rules dictates which of the digital program segments are to be stored in the library (new program data, col. 9, lines 15-20), a location for storing each of the digital program segments (col. 10, lines 29-40), and period of time for storage of each of the digital program segments (the predetermined time period after which a program is removed and archived, col. 9, lines 30-42), and wherein the library database stores information identifying the programs segments stored, the location, and the period of time, as determined by the set of rules (col. 9, lines 3-10); and the set of rules is based upon an aggregation of related user preference information of a plurality of users

(col. 10, lines 20-28), all for the benefit of intelligent storage of programming (col. 10 line 29 - col. 11 line 11).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to include a library for storing the digital program segments and an associated library database used in retrieving the digital program segments and to update the library and library database according to a set of rules as described above, as taught by Craig, for the benefit of providing video on demand functionality to the interactive system in a dynamic, intelligent fashion by using a comprehensive database which catalogs the contents and features of the library of segments in an efficient manner.

Regarding claim 60, Freeman, Safadi, and Blahut disclose the method of claim 50, wherein the transmission medium is a low bandwidth transmission medium (Freeman teaches using telephone lines, page 7, lines 31-33), but fail to disclose the digital program segments comprise still-frame video.

In an analogous art, Craig teaches transmitting still images as part of a multimedia selection in a multimedia distribution service (col. 6, lines 30-41), offering a diverse selection of multimedia services.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to include

still-frame video, as taught by Craig, for increasing the diversity of information available to a user.

9. Claims 57, 58, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, Safadi, and Blahut as applied to claim 50 above, and further in view of Kenner.

Regarding claim 57, Freeman, Safadi, and Blahut disclose the method of claim 50, but fail to disclose the storage server is located at a remote transmission source from which the programming transmission center requests and receives the succession of digital program segments.

In an analogous art, Kenner teaches a video clip storage and retrieval system (fig. 1, col. 7, lines 14-22) wherein video clips are stored across a network of storage and retrieval units (SRUs), and when a particular video clip is desired, the clip is requested and retrieved from an extended SRU for transmission to a user terminal (col. 11, lines 25-32, 45-51), wherein the benefit of utilizing a network of remote transmission sources is to most efficiently utilize a large amount of distributed storage space to make the most desired videos most readily available to those users who would request them (col. 11, lines 4-24 and col. 17, lines 35-46).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to include accessing the digital program segments from the server at a remote transmission

source, as taught by Kenner, for the benefit of utilizing a network of remote transmission sources to most efficiently utilize a large amount of distributed storage space to make the most desired digital program segments most readily available to those users who are most interested in them.

Regarding claim 58, Freeman, Safadi, Blahut, and Kenner disclose the method of claim 57, wherein the remote transmission source is a regional transmission center (Kenner, fig. 1, extended SRU 26 primarily serves geographic regions, as clips are stored on extended SRUs based on their proximity to users, col. 11, lines 4-24).

Regarding claim 61, Freeman, Safadi, and Blahut disclose the method of claim 50, but fail to disclose the step of encoding further comprises encoded data commands into the succession of digital program segments, the commands encoded for instructing a reception system of the user to retrieve an additional digital program segment over a communication network.

In an analogous art, Kenner teaches including URL data within digital segments that are used to retrieve additional segments from the Internet (col. 32, lines 51-63) and embedded instructions for automatic alteration or enhancement of program segments (col. 32 line 64 – col. 33 line 12), providing means for accessing related or additional program segments from a communication network to the user for added flexibility.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Freeman, Safadi, and Blahut to encode data commands for instructing a reception system of the user to retrieve an additional digital program segment over a communication network, as taught by Kenner, for the benefit of increasing the flexibility of the interactive system through dynamic retrieval of additional digital program segments.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hurst, Jr. (6,038,000) who teaches detecting inserted splice points in compressed data streams.

11. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic D Saltarelli whose telephone number is (703) 305-8660. The examiner can normally be reached on M-F 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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